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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,201	11/20/2003	Ryoichi Mukai	0941.68754	9822

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EXAMINER

RICKMAN, HOLLY C

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,201

Applicant(s)

MUKAI, RYOICHI

Examiner

Holly Rickman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-6 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/13/05 has been entered.

Claim Rejections - 35 USC § 102

2. The rejection of claims 1-2, 5-6 and 13 under 35 U.S.C. 102(e) as being anticipated by Ryonai et al. (US 6242085) is withdrawn in view of Applicant's amendments.

3. The rejection of claims 1-3, 5-6 and 13 under 35 U.S.C. 102(e) as being anticipated by Sakawaki et al. (US 2002/0160234) is withdrawn in view of Applicant's amendments.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. The rejection of claim 4 under 35 U.S.C. 103(a) as being unpatentable over Ryonai et al. (US 6242085), in view of Takahashi et al. (US 6119483) is withdrawn in view of Applicant's amendments.

6. The rejection of claim 4 under 35 U.S.C. 103(a) as being unpatentable over Sakawaki et al. (US 2002/0160234), in view of Takahashi et al. (US 6119483) is withdrawn in view of Applicant's amendments.

7. Claims 1-3, 5-6, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 5846648) in view of Ryonai et al. (US 6242085).

Chen et al. disclose a magnetic recording medium having a nucleation layer, a Cr intermediate layer thereon (corresponding to the claimed Cr-based underlayer), a magnetic recording layer thereon formed from a CoPt containing alloy including a segregation component such as oxides or nitrides of silicon, and a protective overcoat thereon (col. 8, lines 28-43; col. 9, lines 45-56; col. 10, lines 22-39). The reference teaches that the nucleation layer is formed from "discrete" grains with grains boundaries including segregating elements therebetween. It is the examiner's contention that the claimed "plurality of islands" reads on the granular nucleation layer structure taught by Chen et al. The term "islands" has been interpreted to mean discrete portions that are separated from one another. The claim does not limit what material separates the islands. Thus, the discrete grains separated by grain boundary regions taught by Chen et al. meet this limitation of the claims.

Chen et al. fails to disclose a magnetic recording film that is formed from two or three layers as required by claims 1 and 2.

Ryonia et al. teach a magnetic recording medium having a granular CoPt magnetic layer containing a segregating component such as silica wherein the recording structure can be formed of a single CoPt granular layer or multiple such layers. The reference teaches that the use of multilayer CoPt granular structure is preferable because it allows for reduction in medium noise (col. 4, lines 30-40).

It would have been obvious to one of ordinary skill in the art at the time of invention to substitute multiple layers of granular CoPt for the single granular CoPt magnetic layer taught by Chen et al. as suggested by Ryonai et al. in order to reduce medium noise in the structure taught by Chen et al.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Chen et al. (US 5846648) in view of Ryonai et al. (US 6242085) and further in view of Takahashi et al. (US 6119483).

Chen et al. in view of Ryonai et al. teach all of the limitations of the claims, as detailed above, except for the presence of a Cr or Cr alloy layer on top of the magnetic recording layer. Instead, Chen et al teach the use of a protective overcoat on the magnetic layer which is formed from C.

Takahashi et al. teach a magnetic recording medium having a granular magnetic layer and a protective overlayer thereon which is formed from a material such as C or Cr (col. 8, lines 42-63).

It would have been obvious to one of ordinary skill in the art at the time of invention to substitute a Cr overcoat for the C overcoat taught by Chen et al. in view of the teaching of equivalence of the two materials set forth by Takahashi et al.

Response to Arguments

9. Applicant's arguments filed 4/15/05 have been fully considered but they are moot in view of the new grounds of rejection.

With respect to claim 4, Applicant argues that the Cr-cap layer of the present invention is different from a Cr protective layer as known in the prior art because the presently claimed Cr-cap layer "promotes diffusion of Cr." This argument is not persuasive for at least the fact that claim 4 does not require the Cr /Cr based alloy layer to perform this function.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Holly Rickman", with a stylized flourish at the end.

Holly Rickman
Primary Examiner
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